

We Claim:

1. A method of screening for a compound that modulates of GPR91 receptor activity comprising:
 - a. preparing a transfected cell comprising a nucleic acid sequence that encodes the amino acid sequence of SEQ ID NO 2;
 - b. contacting transfected cell(s) with at least one compound whose ability to modulate the GPR91 receptor activity is sought to be determined;
 - c. monitoring said cell for a compound that modulates the receptor's activity.
2. The method according to claim 1, wherein the cell is stably transfected.
3. The method according to claim 1, wherein the cell is transiently transfected.
4. The method according to claim 3, wherein the cell is a mast cell.
5. The method according to claim 1, wherein the compound is an agonist.
6. The method according to claim 1, wherein the compound is an antagonist.
7. The method according to claim 1, wherein the compound is an antibody.
8. The method according to claim 1, wherein the amount of calcium influx is monitored.
9. The method according to claim 1, wherein the cells employed in step (a) further comprise a DNA encoding a reporter protein wherein said DNA is operatively linked to a GPR91 responsive transcription element.
10. The method according to claim 8, wherein step (b) is carried out in the presence of increasing concentrations of at least one compound whose ability to inhibit signal transduction activity of said receptor protein(s) is sought to be determined.
11. The method according to claim 9, wherein step (c) comprises monitoring in said cells the level of expression of the reporter protein as a function of the concentration of the compound, thereby indicating the ability of said compound to inhibit signal transduction activity.
12. The method according to claim 8, wherein said GPR91 responsive transcription element is a cAMP responsive transcription element.
13. A method of screening for agonists or antagonists of GPR91 activity comprising: (a) contacting cells which express a GPR91 receptor with a candidate compound, (b) assaying a cellular response, and (c) comparing the cellular response to a standard cellular response made in absence of the candidate compound; whereby, an increased cellular response over the standard indicates that the compound is an agonist and a decreased cellular response over the standard indicates that the compound is an antagonist.
14. A compound identified by the method of claim 1 or claim 13..
15. A method for prophylaxis and/or treatment of a mast cell mediated disease comprising administering to a patient in need of such treatment an amount of a GPR91 receptor modulator sufficient to modulate the mast cell mediated disease.
16. The method of claim 15, wherein the GPR91 receptor modulator is a GPR91 agonist.
17. The method of claim 15, wherein the GPR91 receptor modulator is a GPR91 antagonist.
18. The method of claim 15, wherein the mast cell mediated disease is allergic asthma.

19. The method of claim 15, wherein the agonist is an antibody.
20. A method of diagnosing a mast cell mediated disorder in a mammal comprising:
 - a. Obtaining a sample from a mammal suspected of having a mast cell mediated disorder;
 - b. Incubating said sample with a detectable amount of anti-GPR91 antibody;
 - c. Measuring the amount of bound antibody;
 - d. Comparing the amount of bound antibody in the suspected sample as compared to a normal control.
21. A kit for diagnosing a GPR-91 associated disease or disorder comprising an anti-GPR91 antibody.
22. A method for prophylaxis and/or treatment of mast cell mediated disease comprising administering an anti-GPR91 antibody having an effector function for killing mast cells.
23. The method of claim 22, wherein the effector function is antibody-dependent cell-mediated cytotoxicity (ADCC).
24. A method for prophylaxis and/or treatment of mast cell mediated disease comprising administering an anti-GPR91 antibody conjugated to an apoptosis-inducing moiety for inducing apoptosis in mast cells.
25. The method of claim 24, wherein the apoptosis-inducing moiety is a pro-apoptotic member of the Bcl-2 family selected from Bax- α , Bak, Bcl-X_s, Bad, Bid, Bik, Erk, and Bok.